Remediation Division

PETROLEUM RELEASE SECTION

Technical Guidance Document #10

Options for Discharge of Hydrocarbon-Contaminated Wastewater

Introduction: All discharges to state waters must obtain a permit in accordance with 75-5-605, MCA. Because wastewater contaminated with hydrocarbons is generated by numerous sources throughout Montana, the Permitting and Compliance Division's Water Protection Bureau developed this guide to assist in evaluation of discharge or disposal options. Fees are required for most discharges in accordance with ARM 17.30.201.

I. DISCHARGES OF UNTREATED WASTEWATER TO SURFACE WATER OR GROUND WATER VIA DIRECT DISCHARGE OR DISCHARGE TO A STORM SEWER

Not allowed under Montana nondegradation policy as outlined in 75-5-303, MCA and ARM 17.30.701 et seq.

II. DISCHARGE OF TREATED WASTEWATER TO SURFACE WATER VIA DIRECT DISCHARGE OR DISCHARGE TO STORM SEWER

The discharge requires an individual Montana Pollutant Discharge Elimination System (MPDES) permit or authorization under MPDES Petroleum Clean-up General Discharge Permit No. MT-G790000. The discharge must satisfy the nondegradation rules. The contact number for the NPDES is (406) 444-3080.

1. Carcinogenic parameters in the discharge may not exceed ambient in stream concentration or they must be treated to less than the reporting values as outlined in Circular WQB-7.
2. Parameters that are not carcinogens may exceed ambient in-stream concentrations but cannot exceed trigger values, as outlined in Circular WQB-7, outside of a mixing zone obtained in conjunction with an individual MPDES Permit, as prescribed in ARM 17.30.501 et seq.
3. Under the general discharge permit, bio-monitoring or a priority pollutant scan will be required after treatment and before discharging, with results reported to the Water Protection Bureau.
4. Allow one week to process authorization under a general permit and up to 60 days to process an individual MPDES permit.

III. DISCHARGE OF WASTEWATER TO MUNICIPAL WASTEWATER TREATMENT PLANT

Authorization must be obtained from the municipality prior to discharge.

1. Contact the local municipal wastewater treatment plant operator.
2. The municipality may require a permit, monitoring, pretreatment, and identification of specific discharge points and quantities.
3. Municipalities are under no obligation to accept hydrocarbon contaminated wastewater.
4. Pretreatment guidelines are available from the Water Protection Bureau. The phone number for the Water Protection Bureau is (406) 444-3080.
   (a) EPA recommended limitations for pretreatment are 50 ug/l Benzene and 750 ug/l total BTEX.
   (b) The Water Protection Bureau also recommends a 20 mg/l limit for TPH.

IV. DISCHARGE OF INDUSTRIAL WASTEWATER TO SUBSURFACE VIA INJECTION WELL OR INFILTRATION GALLERY

An Underground Injection Control (UIC), Class V injection well permit must be obtained from the EPA. For more information regarding the Class V injection well permit, visit the following link http://www.epa.gov/Region8/water/uic/classv.html. The link will connect you to a web page with both definitions and a contact page.

V. DISCHARGE OF TREATED WASTEWATER FROM GROUNDWATER REMEDIATION OR DEWATERING OPERATIONS

A "General Permit To Discharge Treated Wastewater From Groundwater Remediation Or Dewatering" MGWPCS Permit No. 1000 must be obtained from the Water Protection Bureau to allow discharges from remediation sites or dewatering operations. Contact the Water Protection Bureau at (406) 444-3080 to obtain the necessary permits.

1. Permit would allow discharge to groundwater **only when treatment removes 80% of the contaminants** of concern and wastewater is discharged back to groundwater with higher concentrations of the contaminants of concern.
2. If wastewater is treated to below the required reporting limits, as defined in WQB Circular 7, it may be discharged in areas outside the contaminated aquifer if hydrologic conditions in the area and discharge volumes are such that the discharge will not cause a change in groundwater quality that exceeds nonsignificant levels.
3. Discharge may be by injection, infiltration or land application but may not increase the size of the contaminated groundwater plume.
4. Injection cannot cause violation of nondegradation rules.
5. Wastewater may not contain contaminants in excess of the regulatory level as established in 40 CFR Part 261 and ARM Title 17 Chapter 53 Sub-Chapter 5.
6. Under this permit the Department may issue authorization letters which authorize short-term exemptions from the water quality standards and the limitations set forth in this permit in accordance with 75-5-308 MCA. Some of the required information or limits may be waived for a short-term **emergency** situation.
7. Except in emergency situations allow one to two weeks to process the general permit.

VI. ONE-TIME SMALL VOLUME DISCHARGES WITHOUT A PERMIT

The department may approve a one-time discharge without a permit for a small volume of hydrocarbon contaminated wastewater on a case-by-case basis. Discharges without a permit are discouraged and will only be approved in situations where the land application of wastewater will be conducted in a manner and location that will not cause hydrocarbons to contaminate soil, migrate into groundwater or runoff into surface water. Wastewater volumes should be less than 500 gallons and hydrocarbon concentrations treated to regulatory level as established in 40 CFR Part 261 and ARM Title 17 Chapter 53 Sub-Chapter 5.

Dewatering" MGWPCS Permit No. 1000 must be obtained from the Water Protection Bureau to allow discharges from remediation sites or dewatering operations. Contact the Water Protection Bureau at (406) 444-3080.

1. Permit would allow discharge to groundwater **only when treatment removes 80% of the contaminants** of concern and wastewater is discharged back to ground water with higher concentrations of the contaminants of concern
2. If waste water is treated to below the required reporting limits, as defined in WQB Circular 7, it may be discharged in areas outside the contaminated aquifer if hydrologic conditions in the area and discharge volumes are such that the discharge will not cause a change in groundwater quality that exceeds nonsignificant levels.

3. Discharge may be by injection, infiltration or land application but may not increase the size of the contaminated ground water plume
4. Injection cannot cause violation of nondegradation rules.
5. Wastewater may not contain contaminants in excess of the regulatory level as established in 40 CFR Part 261 and ARM Title 17 Chapter 53 Sub-Chapter 5.
6. Under this permit the Department may issue authorization letters which authorize short-term exemptions from the water quality standards and the limitations set forth in this permit in accordance with 75-5-308 MCA. Some of the required information or limits may be waived for a short-term **emergency** situation.
7. Except in emergency situations allow one to two weeks to process the general permit.

VII. DISPOSAL OF CONTAMINATED PURGE WATER DURING GROUNDWATER MONITORING

The definition of "purge water" is the water removed from a monitoring well before a groundwater sample is collected. Groundwater is usually purged from the monitoring wells before collecting the sample to ensure that the groundwater sample represents water from the aquifer rather than static groundwater within the monitoring well. Purge water is generally allowed to infiltrate to the groundwater by discharging it on the ground next to the well. The purge water must return to the same groundwater where the purge water originated. The discharge of purge water applies to the requirements of the Montana Water Quality Act (75-5-101 et seq MCA) and the rules that have been adopted to implement the act.

Purge water may not be discharged if the contamination will cause contamination at a latter date. However, the mass pollution in the discharge water is very small compared with the soil volume, and the pollutants are mobile in the soil or they would not be in the water and thus they will pass through the soil and return to groundwater. "Degradation means a change in water quality that lowers the quality of high-quality water for a parameter" (75-5-103(4) MCA). The discharge, seepage or infiltration of unaltered purge water to the ground water from which it originated will not require a discharge permit because there will be no addition of "industrial wastes" or "other wastes" to the waters of the state.

There are exceptions to this rule. Purge water may not be discharged if it contains any presence of free product. Purge water also does not apply in cases where the discharged purged water enters surface water or storm water drains. Purge water does not include water generated during long term pump tests or water purged from mine adits. Purge water must return to the same aquifer zone where it originated.

A list of questions are provided to summarize whether purge water may be discharged. Purge water may only be discharged to ground if the answer is "no" to all five questions.

1. Is water source RCRA listed or characteristic waste?
   If yes, then the purge water must be contained and treated below RBCs.
   If no, then the purge water can be discharged on the ground if answer is "no" to all five questions.
2. Does purge water have visible pollutants or free product?
   If yes, then the purge water cannot be discharged to the ground.
   If no, then the purge water can be discharged on the ground if answer is "no" to all five questions.
3. Can purge water cause surface water discharge or enter a storm sewer drain?
   If yes, then the purge water cannot be discharged to the ground.
   If no, then the purge water can be discharged on the ground if answer is "no" to all five questions.
4. Is purge water from a mine adit or long-term pumping test?
   If yes, then the purge water cannot be discharged to the ground.
   If no, then the purge water can be discharged on the ground if answer is "no" to all five questions.
5. Is purge water from a more contaminated aquifer than the shallowest aquifer?
   If yes, then the purge water cannot be discharged to the ground.
   If no, then the purge water can be discharged on the ground if answer is "no" to all five questions.